ABSTRACT

Background and objectives

Awareness during anaesthesia is one the major problems concerning the anaesthetist. The incidence of awareness during cardiac surgeries done under bypass was high. Bispectral index monitoring was one of the latest and most efficient tool in monitoring the depth of anaesthesia. This study was designed to know the efficiency of anaesthetic method used for anaesthetizing the patients for cardiac surgeries and to find the variations in BIS at different steps of the surgery.

Methods

61 patients who were supposed to undergo elective cardiac surgery under CPB were selected. The BIS value, heart rate, MAP, SpO_2, temperature at baseline, post-induction, skin incision , sternotomy, aortic cannulation, nadir temperature,every 30 mins in CPB, rewarming, immediate post-CPB, sternal wiring, skin closure and spontaneous movement were recorded. The variation of BIS in relation to temperature were studied. Any recall of intraoperative events were assessed using modified BRICE questionnaire.

Results

During the study it was found that the BIS values were within acceptable limits throughout the surgery. The mean BIS value of 57.03±0.51 was recorded at 37^{o}c of rewarming and it was the highest BIS value during the CPB period. The mean BIS value of 41.06±0.78 was recorded during the

hypothermic phase of CPB and this was found to be the lowest BIS value during CPB. It was observed that the BIS value changed by 1.48 units with every 1^{o}c change in temperature. None of the patients had any incidence of recall of intraoperative events when assessed with modified BRICE questionnaire.

Conclusion

It was concluded from the study that, the anaesthetic technique used to anaesthetize the patients for cardiac surgery in our institution was adequate in terms of depth of anaesthesia. The highest chance of awareness during CPB was during the rewarming time and least chance of awareness was during the hypothermic phase. The BIS value decreased with decrease in temperature and increased with increase in temperature. For every 1^{0}c change in temperature the BIS value change was 1.48 units.

Key words: BIS, hypothermia, cardiac surgeries, CPB, BRICE questionnaire.